

Interview Summary	Application No.	Applicant(s)	
	10/620,938	GOODSELL, ANDREW E.	
	Examiner	Art Unit	
	Leonid Kravets	2189	

All participants (applicant, applicant's representative, PTO personnel):

(1) Leonid Kravets.

(3) Andrew Goodsell.

(2) Jens Jenkins.

(4) _____.

Date of Interview: 1/17/06

Type: a) ☒ Telephonic b) ☐ Video Conference
 c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
 If Yes, brief description: _____.

Claim(s) discussed: 1-3.

Identification of prior art discussed: _____.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.



 Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: A clarification of the terms defined in the specification was discussed. Inventor provided a description of a virtual page reclamation which was defined as return of a virtual memory page to a working set after the virtual memory page was previously removed from the working set due to memory constraints. The difference between removing a page in a reclamation and removing the contents of a page in a virtual memory page eviction was clarified. Attorney pointed out support in the specification for the particular definition as described by inventor as being within Paragraphs 34, 39 and 56. Attorney further entered proposed amendments to be entered as examiner's amendment to the claims and specification.

PROPOSED AMENDMENTS FOR EXAMINER'S AMENDMENT

SPECIFICATION

In paragraph [0056], please amend the first sentence in that paragraph as follows:

A "Virtual Memory Page Reclamation" is the return of a virtual memory page 310 to a working set that was previously removed (taken out from the working set) by the operating system due to memory constraints.

CLAIMS

1. (Currently Amended) A computer-implemented method, comprising:
accessing information about virtual memory page evictions for a computer, wherein the virtual memory page evictions correspond to virtual memory pages that are managed by an operating system of the computer, and wherein a virtual page eviction includes removal of contents of a virtual memory page for a purpose of loading the virtual memory page with contents of another virtual memory page;

accessing information about block evictions for an application on the computer, wherein the block evictions correspond to blocks of memory utilized by the application;

accessing information about virtual memory page reclamations for a computer, wherein a virtual memory page reclamation includes a return of a virtual memory page to a working set after the virtual memory page was previously removed (taken out from the working set) due to memory constraints; and

determining a target size for a block cache for the application based at least upon ~~the in-formation~~ information about the virtual memory page reclamations ~~evictions~~ and the information about the block evictions.

2. (Original) The method of claim 1, further comprising, sizing the block cache in accordance with the target size.

3. (Currently Amended) The method of claim 1, further comprising ~~accessing information about virtual memory page reclamations for the computer, and~~

determining the target size for the block cache based at least upon information about the virtual page evictions and the block evictions~~virtual memory page reclamations~~.

4. (Original) The method of claim 3, wherein said accessing information about virtual memory page reclamations comprises maintaining presence information regarding the presence of a block in a working set for the application.

5. (Original) The method of claim 4, wherein the presence information is maintained for each block via a flag associated with the block.

6. (Original) The method of claim 3~~1~~, wherein said accessing information about virtual memory page reclamations comprises resetting a dirty flag for each virtual memory page underlying the block upon accessing or allocating the block.

7. (Original) The method of claim~~1~~, wherein determining a target size comprises calculating a change in target size per unit time.

8. (Original) The method of claim 7, wherein the change in target size is calculated according to the following algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory or available quota memory on the computer

TM comprises total physical memory or total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

9. (Original) The method of claim 7, wherein the change in target size is added to the smallest of an actual size of the block cache and a previous target size to produce a new target size.

10. (Original) The method of claim 9, wherein change from a previous target size to the new target size is maintained within a threshold.

11. (Original) A computer-readable medium having computer-executable instructions for performing the method of claim 1.

12. (Currently Amended) A computer-implemented method, comprising:
accessing information about virtual memory page reclamations for a computer,
wherein the virtual memory page ~~evictions~~reclamations correspond to virtual memory
pages that are managed by an operating system of the computer, and wherein a virtual
memory page reclamation includes a return of a virtual memory page to a working set
after the virtual memory page was previously removed (taken out from the working set)
by the operating system due to memory constraints;

accessing information about block evictions for an application on the computer,
wherein the block evictions correspond to blocks of memory utilized by the application;
and

determining a target size for a block cache of the application based at least upon
the information about the virtual memory page reclamations and the information about
the block evictions.

13. (Original) The method of claim 12, further comprising, sizing the block
cache in accordance with the target size.

14. (Original) The method of claim 12, wherein said accessing information
about virtual memory page reclamations comprises maintaining presence information
regarding the presence of a block in a working set for the application.

15. (Original) The method of claim 14, wherein the presence information is
maintained via a flag associated with each block.

16. (Original) The method of claim 12, wherein said accessing information
about virtual memory page reclamations comprises resetting a dirty flag for each virtual
memory page underlying the block upon accessing or allocating the block.

17. (Original) The method of claim 12, wherein determining a target size comprises calculating a change in target size per unit time.

18. (Original) The method of claim 17, wherein the change in target size is calculated according to the following algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory or available quota memory on the computer

TM comprises total physical memory or total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

19. (Original) The method of claim 17, wherein the change in target size is added to the smallest of an actual size of the block cache and a previous target size to produce a new target size.

20. (Original) The method of claim 19, wherein change from a previous target size to the new target size is maintained within a threshold.

21. (Original) A computer-readable medium having computer-executable instructions for performing the method recited in claim 12.

22. (Currently Amended) A computer-implemented method, comprising:
accessing information about virtual memory page evictions on a computer;

accessing information about virtual memory page reclamations for the computer,
wherein the virtual memory page reclamations and evictions correspond to virtual memory
pages that are managed by an operating system of the computer, and wherein a virtual
memory page reclamation includes a return of a virtual memory page to a working set after
the virtual memory page was previously removed (taken out from the working set) by the
operating system due to memory constraints;

accessing information about block evictions for an application on the computer,
wherein the block evictions correspond to blocks of memory utilized by the application; and

determining a target size for a block cache of the application based at least upon the
information about the virtual memory page reclamations, the information about the virtual
memory page evictions, and the information about the block evictions by using the following
algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory the computer

TM comprises total physical memory the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

23. (Currently Amended) A computer-implemented method, comprising:

accessing information about virtual memory page evictions on a computer;

accessing information about virtual memory page reclamations for the computer, wherein the virtual memory page reclamations and evictions correspond to virtual memory pages that are managed by an operating system of the computer, and wherein a virtual memory page reclamation includes a return of a virtual memory page to a working set after the virtual memory page was previously removed (taken out from the working set) by the operating system due to memory constraints;

accessing information about block evictions for an application on the computer, wherein the block evictions correspond to blocks of memory utilized by the application; and

determining a target size for a block cache of the application based at least upon the information about the virtual memory page reclamations, the information about the virtual memory page evictions, and the information about the block evictions by using the following algorithm:

$$dCM/dt = AQ/TQ * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AQ comprises available quota memory on the computer

TQ comprises total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

24. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a method, the method comprising:

accessing information about at least ~~one of~~ (1) virtual memory page reclamations and (2) virtual memory page evictions for a computer, wherein the virtual memory page evictions and reclamations correspond to virtual memory pages that are managed by an operating system of the computer, and wherein a virtual memory page reclamation includes a return of a virtual memory page to a working set after the virtual memory page was previously removed (taken out from the working set) by the operating system due to memory constraints, and wherein a virtual page eviction includes removal of contents of a virtual memory page for a purpose of loading the virtual memory page with contents of another virtual memory page;

accessing information about block evictions for an application on the computer, wherein the block evictions correspond to blocks of memory utilized by the application; and

determining a target size for a block cache of the application based at least upon (a) the information about ~~the at least one of~~ (1) the virtual memory page reclamations and (2) ~~the virtual memory page evictions for the computer and~~ (b) the information about the block evictions.

25. (Original) The computer-readable medium of claim 24, wherein the method further comprises sizing the block cache in accordance with the target size.

26. (Original) The computer-readable medium of claim 24, wherein said accessing information about virtual memory page reclamations comprises maintaining presence information regarding the presence of a block in a working set for the application.

27. (Original) The computer-readable medium of claim 26, wherein the presence information is maintained for each block via a flag associated with the block.

28. (Original) The computer-readable medium of claim 26, wherein said accessing information about virtual memory page reclamations comprises resetting a dirty flag for each virtual memory page underlying the block upon accessing or allocating the block.

29. (Original) The computer-readable medium of claim 24, wherein said determining a target size for a block cache of the application comprises determining the target size based at least upon (a) information about the virtual memory page reclamations for the computer, (b) information about the virtual memory page evictions for the computer, and (c) the information about the block evictions.

30. (Original) The computer-readable medium of claim 29, wherein determining a target size comprises calculating a change in target size per unit time.

31. (Original) The computer-readable medium of claim 30, wherein the change in target size is calculated according to the following algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory or total quota memory on the computer

TM comprises total physical memory or total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

32. (Original) The computer-readable medium of claim 31, wherein the change in target size is added to the smallest of an actual size of the block cache and a previous target size to produce a new target size.

33. (Original) The computer-readable medium of claim 31, wherein the change from a previous target size to the new target size is maintained within a threshold.

34. (Currently Amended) A computer system, comprising:
physical memory;

an application stored within the computer system; and a cache memory manager configures and adapted to:

access information about at least ~~one of~~ (1) virtual memory page reclamations and (2) virtual memory page evictions for the computer, wherein the virtual memory page evictions and reclamations correspond to virtual memory pages that are managed by an operating system of the computer, and wherein a virtual memory page reclamation includes a return of a virtual memory page to a working set after the virtual memory page was previously removed (taken out from the working set) by the operating system due to memory constraints, and wherein a virtual page eviction includes removal of contents of a virtual memory page for a purpose of loading the virtual memory page with contents of another virtual memory page;

access information block evictions for the application, wherein the block evictions correspond to blocks of memory utilized by the application; and

determining a target size for a block cache of the application based at least upon (a) the information about the ~~at least one of (1) the virtual memory page reclamations and (2) the virtual memory page evictions for the computer~~ and (b) the information about the block evictions.

35. (Original) The computer system of claim 34, wherein said accessing information about virtual memory page reclamations comprises maintaining presence information regarding the presence of a block in a working set for the application.

36. (Original) The computer system of claim 35, wherein the presence information is maintained for each block via a flag associated with the block.

37. (Original) The computer system of claim 35, wherein said accessing information about virtual memory page reclamations comprises resetting a dirty flag for each virtual memory page underlying the block upon accessing or allocating the block.

38. (Original) The computer system of claim 34, wherein said determining a target size for a block cache of the application comprises determining the target size based at least upon (a) information about the virtual memory page reclamations for the computer, (b) information about the virtual memory page evictions for the computer, and (c) the information about the block evictions.

39. (Original) The computer system of claim 38, wherein determining a target size comprises calculating a change in target size per unit time.

40. (Original) The computer system of claim 39, wherein the change in target size is calculated according to the following algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory or total quota memory on the computer

TM comprises total physical memory or total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

41. (Original) The computer system of claim 40, wherein the change in target size is added to the smallest of an actual size of the block cache and a previous target size to produce a new target size.

42. (Original) The computer system of claim 41, wherein the change from previous target size to the new target size is maintained within a threshold.

43. (Currently Amended) A computer system, comprising:

physical memory;

an application stored within the computer system; and

means for accessing information about at least ~~one of~~ (1) virtual memory page reclamations and (2) virtual memory page evictions for the computer, wherein the virtual memory page evictions and reclamations correspond to virtual memory pages that are managed by an operating system of the computer, and wherein a virtual memory page reclamation includes a return of a virtual memory page to a working set after the virtual memory page was previously removed (taken out from the working set) by the operating system due to memory constraints, and wherein a virtual page eviction includes removal of contents of a virtual memory page for a purpose of loading the virtual memory page with contents of another virtual memory page;

means for accessing information about block evictions for the application, wherein the block evictions correspond to blocks of memory utilized by the application; and

means for determining a target size for a block cache of the application based at least upon (a) the information about the ~~at least one of~~ (1) the virtual memory page reclamations and (2) ~~the virtual memory page evictions for the computer and~~ (b) the information about the block evictions.

44. (Original) The computer system of claim 43, wherein said accessing information about virtual memory page reclamations comprises maintaining presence information regarding the presence of a block in a working set for the application.

45. (Original) The computer system of claim 44, wherein the presence information is maintained for each block via a flag associated with the block.

46. (Original) The computer system of claim 44, wherein said accessing information about virtual memory page reclamations comprises resetting a dirty flag for each virtual memory page underlying the block upon accessing or allocating the block.

47. (Original) The computer system of claim 43, wherein said determining a target size for a block cache of the application comprises determining the target size based at least upon (a) information about virtual memory page reclamations for the computer, (b) information about the virtual memory page evictions for the computer, and (c) the information about the block evictions.

48. (Original) The computer system of claim 47, wherein determining a target size comprises calculating a change in target size per unit time.

49. (Original) The computer system of claim 48, wherein the change in target size is calculated according to the following algorithm:

$$dCM/dt = AM/TM * dBE/dt - CM/TM * dPE/dt - dPR/dt$$

Where:

CM comprises size of the memory of the block cache

AM comprises available physical memory or total quota memory on the computer

TM comprises total physical memory or total quota memory on the computer

BE comprises Block Evictions

PE comprises Virtual Memory Page Evictions

PR comprises Virtual Memory Page Reclamations

t comprises time.

50. (Original) The computer system of claim 49, wherein the change in target size is added to the smallest of an actual size of the block cache and a previous target size to produce a new target size.

51. (Original) The computer system of claim 50, wherein the change from a previous target size to the new target size is maintained within a threshold.